

Recommended Actions

Several actions are needed to carry out the goals of the *Upper Sacramento River Fisheries and Riparian Habitat Management Plan* (Resources Agency, 1989), and the plans described in this Handbook. These actions are:

- **Form a locally-based nonprofit management organization**
-----*In May, 2000 the Sacramento River Conservation Area, a nonprofit public benefit corporation was formed*
- **Obtain a signed Memorandum of Agreement (MOA) between the appropriate agencies**
-----*A MOA has been signed by most of the key agencies and all the named counties*
- **Develop site-specific plans and contracts, which may include the following features:**
 - conservation easements
 - set-aside agreements
 - bank protection
 - land acquisition from willing sellers
 - landowner protections
 - floodplain management strategies
- **Develop program to improve permit and regulatory coordination and consistency**
- **Develop mutual assistance program**
- **Develop education and outreach program**
- **Support monitoring and research programs**

This chapter provides a brief outline of these actions. They will be carried out in a manner that:

- Uses an ecosystem approach that contributes to recovery of threatened and endangered species and is sustainable by natural processes;
- Uses the most effective and least environmentally damaging bank protection techniques to maintain a limited meander where appropriate;
- Operates within the parameters of local, state and federal flood control and bank protection programs;
- Participation by private landowners and affected local entities is voluntary, never mandatory;

- Gives full consideration to landowner, public, and local government concerns;
- Provides for the accurate and accessible information and education that is essential to sound resource management.

Form a locally-based Nonprofit Management Organization

The Nonprofit Organization, Sacramento River Conservation Area Forum (SRCAF), has been created as a California Corporation, filed its papers with the Internal Revenue Service as a 501 c-3 not-for-profit entity and began meeting in May of 2000. This entity is governed by a board of directors which includes both private landowner and public interest representatives from each of the involved counties, as well as ex-officio members from six state and federal resource agencies. A Technical Advisory Committee (TAC) composed of agency and academic scientists, as well as private individuals, has been established to advise the SRCA on issues related to river management and site-specific planning.

Obtain a signed Memorandum of Agreement between the appropriate agencies

To date, nineteen agencies, including the seven counties within the Conservation Area, have signed the MOA.. The MOA signatories are as follows: The Resources Agency, California Department of Fish and Game, California State Parks and Recreation, Wildlife Conservation Board, U.S. Army Corps of Engineers, State Lands Commission, U.S. Bureau of Land Management, Glenn County, Butte County, Shasta County, Colusa County, Tehama County, Sutter County, Yolo County, U.S. Fish and Wildlife Service, U.S. Bureau of Reclamation, The Reclamation Board, Department of Water Resources, and California Department of Food and Agriculture.

Develop site-specific plans and contracts

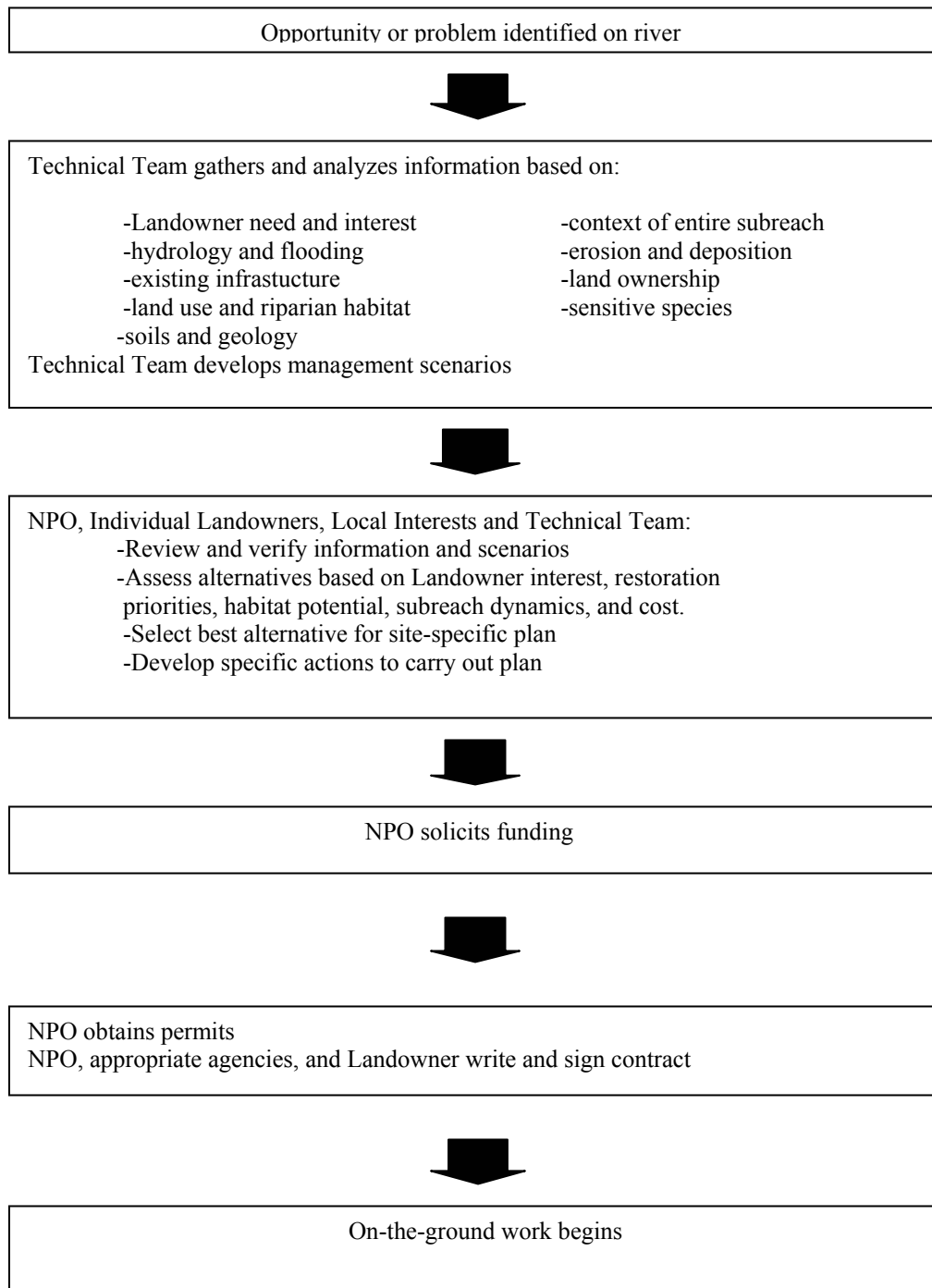
Site-specific management plans will provide the building blocks of the Sacramento River Conservation Area, particularly in areas falling within the inner river zone guidelines (Figure 9-1).

A site-specific plan should outline the current condition of a particular sub-reach and the potential that exists to protect and restore habitats and river processes. Consideration is given to ecological processes (flooding and channel migration), habitats (riparian forests, sloughs, gravel bars, and shaded riverain aquatic), and identified locations of sensitive sites (bank swallow colonies, yellow-billed cuckoo nests, and winter run chinook salmon redds). In addition, current land use, ownership, and development infrastructure is important in determining realistic restoration projects. The plans should address issues that could affect neighboring landowners, such as fire and trespass problems. Any negative effects on local tax bases that might result from restoration of the site should also be addressed.

After the potential for riparian restoration within a reach is reviewed and reasonable objectives are formulated, more detailed data obtained from field studies are necessary for site-specific decisions.

The site-specific plan should describe program eligibility and where proposed management actions would rank in terms of the overall riparian restoration strategy. The highest priority projects are those that preserve intact process and are cost effective.

Figure 9-1. *Site-specific management planning.*



Recommended Actions

Project alternatives should be evaluated in terms of net change in riparian vegetation compared to a no-project alternative.

A draft proposal based on the greatest biological benefit at the least cost should be developed with input from potentially affected landowners. This document (possibly the final site-specific plan with recommendations) should become the foundation for negotiations with landowners and the basis of a formal funding proposal.

Actions that could be included as part of the site-specific management plan include conservation easements, set-aside agreements, bank protection, acquisition, landowner protections, and floodplain management. These actions will be carried out through contractual agreements on individual properties which will contain enforcement provisions if either party violates the contract. The following actions could be taken as part of a site-specific management plan.

Conservation easements

Conservation easements are restrictions landowners voluntarily place on their property that legally bind the present and future owners. Generally, an easement is sold or donated to a trustee agency or organization. A conservation easement may prohibit some activities in order to protect the habitat, vegetation, or wildlife found on the land. Conservation easements do not, as a rule, allow public access. Several state and federal agencies currently use conservation easements as a tool to protect valuable habitat and river processes along the Sacramento River. Some county general plans suggest conservation easements with private landowners as a means of improving public access to the river. The proposed nonprofit management entity would work with existing state, federal, or local easement programs, or may develop its own easement program.

Conservation easements would be incorporated into site-specific management plans. The NPO may institute conservation easements using contract agreements on individual properties which contain enforcement provisions if the contract is violated by either party.

Set-aside agreements

The purpose of a set-aside program is to provide additional incentives for private landowners (who own 66% of the land in the Conservation Area) to voluntarily participate in riparian habitat conservation. Much of the eligible land which could be preserved in riparian habitat is potentially high quality agricultural land and could be profitable for the owners to farm, while some of the eligible land is already in crops. Other eligible land is not as suitable for crops, but landowners want to retain control for many reasons. A set-aside program would provide an incentive to phase out agricultural activities and let the land return to riparian habitat for farmers who either wish to maintain ownership control over the land or prefer limited-term arrangements.

A set-aside program, carried out by the proposed nonprofit management entity, would offer an option for dedicating land for habitat purposes that is short of selling a fee or easement interest. Set-aside agreements would be short-term, e.g. for five years—akin to a lease arrangement. They would have an automatic renewal provision and requirement notification, e.g. for five consecutive years, in order to withdraw—akin to a Williamson Act contract. At the time of this writing, it is recog-

nized that a set-aside program would be new and unique and there are a number of legal and policy details which will need to be worked out prior to implementation. The description provided here, which builds upon the language in the 1989 Plan, should be regarded as laying out the basic intents and concepts for this innovative idea.

Set-aside agreements between the proposed nonprofit management entity and riparian landowners would normally include an annual per acre payment. The payment amount would be based on the original acreage at the time of the agreement, and this status would not be affected by natural river dynamics of erosion, deposition, or flooding. In general, landowners would agree to not develop their riparian lands within the area subject to the set-aside agreement. Land management provisions would be similar to those contained in conservation easements. In some instances, landowners would reserve the right to conduct agriculturally related or non-commercial activities such as gravel removal for on-farm needs, drainage, access, riparian water use, or private recreational use. Landowners would allow deposition, erosion, and/or riparian plant growth to take place with a minimum of interference, and might even choose to manage their lands actively within the Conservation Area to enhance wildlife habitat in a manner consistent with the plan and handbook. Landowners would provide access to appropriate individuals as necessary to monitor habitat conditions.

A participating landowner would submit a set-aside plan to the proposed nonprofit management entity for approval. The management entity would be available to assist the landowners in preparing the plan, which must be within the guidelines of the 1989 Plan and Handbook. Participation in the agreement by landowners would be voluntary. The minimum participation period would be one to five years with automatic renewal. To withdraw from participation in the Conservation Area, a landowner must give notice for five consecutive years. Annual per acre payment would be based on a percentage of the appraised fair market value of comparable agricultural or open space land. In the event of change of ownership, participation would transfer with the land. Funds for set-aside payments must be based on a stable, secure source of funds such as interest on an endowment, and not rely on year-to-year State or Federal budgets.

Specifics of a set-aside plan or agreement would vary from landowner to landowner, depending upon individual circumstances and needs. Set-aside agreements may address details regarding erosion control or payment terms in a variety of ways. For example, an agreement might have an individual landowner allow the river bank to erode naturally on his or her land, in exchange for an annual payment based on that portion allowed to erode. Another example agreement might include allowing bank erosion in exchange for an annual payment along with a commitment for bank protection to be placed after the bank retreats a predetermined distance. After bank protection is placed, the annual payment could be ceased. When bank protection is a part of an individual agreement, it is anticipated the nonprofit management entity would be responsible for installation and maintenance, although this would be up to the individual landowner. For landowners on the accreting, rather than eroding, side of the river, a set-aside agreement might provide an annual payment in exchange for the landowner allowing riparian habitat succession and growth to proceed without clearing.

Other details for the nonprofit management entity to consider would be giving premiums to longer agreements, and lower payments for shorter terms. Payments would also be lower when landowners wish to retain more usage rights such as gravel extraction, recreational access, grazing, or other related activities.

At the present time under today's agricultural conditions it is estimated that \$300 per acre per year will be the amount necessary to attract landowners to enroll in a set-aside program. On the other hand, current policies of government agencies and major conservation organizations, who are the most likely source of funding for the riparian habitat protection and restoration, make them reluctant or unable to make annual payments which in total approach full purchase price or perpetual easement price in exchange for only short-term conservation benefits. Highest priority for expenditure and management will generally be for permanent habitat protection. However, the shorter-term set-aside program may provide protection options for some key riparian lands not otherwise able to be acquired.

Bank protection

Part of the incentive for landowners to enroll land in the Conservation Area may be the provision of effective bank protection at locations indicated in the site-specific management plans, using the restoration priorities and management principles discussed in this *Handbook*. The proposed nonprofit management entity may be responsible for effective bank stabilization at these sites as described in the site-specific plans and any associated contracts. Agreements regarding installation and maintenance of bank protection will be determined as part of negotiations between the management entity and landowner. Selection of sites where protection is needed should consider the location of the inner river zone and the preservation of river processes (e.g. erosion, deposition and flooding). Site selection should be made according to sound technical criteria, including land use and structures, hydrologic, hydraulic and geotechnical. Plan formulation should include evaluation of a wide range of alternative protection methods. Further research and evaluation of new methods and techniques, including setback levees and windrowed and trenched rock, should be supported.

Acquisition

Fee title purchase is the purchase of land from willing sellers. It has been the most common method of riparian habitat protection by wildlife agencies and conservation organizations along the Sacramento River. For example, approximately 8,798 acres (24 percent) of the Conservation Area between Red Bluff and Chico Landing is publicly owned. Fee title purchase is a valuable but expensive tool for riparian habitat conservation. Issues that should be addressed by the proposed nonprofit management entity as part of fee title acquisition include the impact to local tax revenue, and a potential increase in trespassing problems. Careful planning will be needed to avert problems stemming from improved access to river lands, such as increased fire danger, problems for adjacent agricultural operations, and adverse effects on habitat and wildlife. Enforcement of trespass laws should become a high priority of agencies and counties.

Any fee title purchases made by the nonprofit management entity would include the full payment in-lieu of taxes to local governments. The entity would support the

full payment in-lieu of taxes by government agencies and non-profit organizations that acquire land on the Sacramento River, and work to ensure that this occurs.

Landowner protections to be included as part of the work on a specific site include the following:

- addressing impacts to both the project landowner and adjacent landowners which are related to threatened an endangered species through cooperative agency efforts such as “safe harbors”;
- using mechanisms such as endowments to pay for future bank protection if needed;
- including elements such as levees or bank protection as part of the site- specific plan, funding proposals, and contract; addressing patrol and trespass issues in funding proposals and contract;
- addressing impacts to adjacent landowners in funding proposals and contract;

Floodplain management

The site-specific plan could include benefiting riparian habitat and adjacent landowners through the re-location of levees or strengthening them in where sufficient floodplain exists for both public safety and healthy riparian habitat. Such changes should be based on sound technical criteria, including land use and structures, hydrologic, hydraulic, and geotechnical.

Other Actions

Other actions that could be carried out as part of site-specific planning include land trades and transfers of development rights (TDRs). Land trades involve private landowners trading land with the public to obtain acreage less prone to erosion, sedimentation; or flooding. The proposed nonprofit management entity could determine if there is sufficient farmable land outside of the inner river zone guidelines under state or federal ownership to warrant such exchanges. If there is sufficient interest, the entity could co-ordinate such exchanges.

Transfers of development rights are “a method of transferring potential development from a location where local government wishes to limit development to a location where local government is willing to see increased development.” (Resources Agency, 1989) To date, it does not appear that any of the seven counties in the Sacramento River Conservation Area have plans to institute a TDR program. The proposed nonprofit management entity could work with local government in implementing such a program.

Develop regulatory consistency/streamlining program

New policies and concepts are being developed at both the state and federal level in regards to endangered species protection. These new policies focus on two broad principles: first, the resources themselves will be better protected by using ecosystem and multi-species level approaches, rather than a single species focus; and second, the regulated private and public community should be regarded as partners in conservation, to be encouraged through regulatory relief and other incentives. The new policies and ideas are implemented as elements of various endangered species plans and

permit processes such as conservation agreements, habitat conservation plans (HCPs), Natural Communities Conservation Plans (NCCPs) or recovery plans. The proposed nonprofit management entity will take the lead in developing such plans, to ensure that they are consistent with the goals of the *1989 Plan* and the *Handbook*.

Ideally, program participants should obtain “credit” for contributing to a functioning ecosystem and habitat values, and certain environmental impacts associated with other activities on or near the site would be allowed by the permitting agencies. In such cases the benefits to the riparian ecosystem resulting from a landowner’s participation should outweigh negative impacts resulting from other activities of their operation. Such changes to current enforcement or environmental regulations, however, would require not only policy changes at the state and federal levels, but a comprehensive habitat inventory and accounting system, such as a habitat conservation plan.

Other elements of the regulatory consistency/streamlining program should include the following:

- Mitigation Requirements within the Conservation Area

The proposed nonprofit management entity will work with regulatory agencies to avoid, minimize, or compensate for habitat impacts associated with proposed projects. If mitigation is required, the entity would be responsible for working with the regulatory agencies to satisfy the requirements and include the costs as part of the total project cost. The nonprofit management entity will be responsible for obtaining all environmental permits. If certain project elements, such as bank stabilization, are planned for implementation in the future the nonprofit entity should obtain permits up front to ensure that bank stabilization or other activities can occur as intended, and the landowner and the entity can be certain that the project can be implemented as was agreed.

- Interagency Consistency

Permitting and trustee agencies should agree on consistent guidelines for the mitigation of environmental impacts and confirm by executing MOUs or MOAs. Such guidelines should be applied consistently (e.g. constant ratios for habitat compensation in similar cases); be internally consistent among different ecosystem elements (e.g. species protection windows make sense); and be reasonable in the context of other public needs (e.g. water quality or flood protection). Mitigation guidelines, such as for the Swainson’s Hawk, should be consolidated for the entire Sacramento River Conservation Area, consistent with the existing species recovery plan. Such agreements will benefit riparian habitat as well as providing consistency for private landowners seeking permits. The proposed nonprofit management entity would provide leadership in the development of consistent guidelines.

- Consolidation of Application Forms

Upon formation of the management entity, a high priority will be given to the establishment of a “one stop shop” for obtaining permits. Certain activities along the Sacramento River may have minimal or somewhat predictable environmental impacts. These activities may include clearing irrigation ditches, installing culverts, repairing and maintaining bank protection, or planting vegetation on levee berms. Such activities would be handled by master permits or agreements from an agency or through a

consolidated application process. The proposed nonprofit management entity would facilitate agency cooperation in the development of a new, single standard form which would be submitted in place of the separate ones now required. If master or regional permits were in place, the proposed nonprofit management entity would apply for permits for certain activities which are analyzed within the context of the goals of the *1989 Plan* and the more specific management principles in this *Handbook*. This should provide for more efficient review of subsequent individual activities that are consistent with the goals and principles of the *1989 Plan* and this *Handbook*.

- Mitigation Banking

Several agencies currently protect or restore riparian habitat on the Sacramento River under mitigation agreements. Activities likely to require mitigation include bank protection and flood control work. Arrangements are made on a case-by-case basis with the U.S. Fish and Wildlife Service and the California Department of Fish and Game. The proposed nonprofit management entity may administer a trust account that could be used for riparian land acquisition or management, consistent with the goals of the *1989 Plan* and this *Handbook*.

Develop mutual assistance program

Problems associated with public access and trespass are major concerns with area landowners, conservation groups, and agencies. A focus of the *1989 Plan* is to develop and manage specific public access and recreation areas and severely limit and control public trespass on private and public lands. Present staffing however does not permit adequate monitoring, maintenance, and law enforcement on some public land. User fees and/or legislated monies should be established to help cover enforcement and management costs. Patrol and trespass issues should also be dealt with at the level of the site-specific plan. The proposed nonprofit management entity would pursue opportunities to fund personnel to patrol river lands.

Develop education and outreach program

The proposed nonprofit management entity would provide technical assistance to private and public landowners along the river regarding river system processes and riparian habitat protection and restoration. The entity would rely on the technical advisory team to help provide the technical information. The entity would also provide information to the public and local communities regarding the benefits of the Conservation Area and of balancing the protection and restoration of riparian habitat with agricultural land uses. Increasing local and regional appreciation of the Sacramento River system will provide important support for the goals of the proposed management entity. Elements of this education and outreach effort include:

- Information Clearinghouse

The proposed nonprofit management entity would coordinate with agencies and organizations to provide information on grant or other funding opportunities for Sacramento River landowners.

- Workshops, Forums and Interpretive Programs

The proposed nonprofit management entity may develop informational workshops and forums on a variety of subjects of interest to landowners and other river users.

Subjects of interest could include geomorphology and sedimentation, flooding, agricultural, or wildlife issues. In addition, the management entity may assist with setting up outdoor interpretive programs on biological and agricultural topics on the Sacramento River. This work may be done in cooperation with other organizations, such as the Sacramento River Discovery Center. To assist private landowners in conducting restoration projects or become contractors in riparian restoration, the management entity could sponsor riparian restoration seminars and hands-on workshops.

- Public Education on River Access

Trespass problems in the Sacramento River Conservation Area should be lessened through public education, enforcement of existing trespass laws, and by providing adequate access opportunities. A good education program could include the use of standardized brochures, maps and signs throughout the conservation area. The entity should develop these items in cooperation with chambers of commerce and recreational businesses along the river.

- Newsletter

There is currently no regular information source that provides people with updates on all types of issues along the Sacramento River. The entity may publish a newsletter that would address Sacramento River issues from a broad perspective and provide it to a wide variety of interests. Updates would be provided on issues such as erosion, flooding, scientific studies, current legislation, the Sacramento River Wildlife Refuge, Department of Fish and Game lands, and volunteer opportunities. The proposed nonprofit management entity may also develop informational brochures on public access along the river (for distribution in cooperation with other agencies), and educational brochures on Sacramento River wildlife habitats, forest succession, and geomorphology.

- Exotics Control

The entity may take a leading role in the control of exotic plant species that threaten the Sacramento River riparian ecosystem. Activities should include public education on the impact of exotic invasives on riparian systems. The entity may coordinate or cooperate in efforts to assess the overall impact of exotic vegetation on the river and tributary systems and develop and implement an eradication and control program.

Support monitoring and research programs

The entity will monitor and report on progress toward meeting the goals of the *1989 Plan*, the more specific management objectives outlined in this *Handbook*, as well as the success of site-specific management plans. In addition, the proposed nonprofit management entity may cooperate with research efforts being conducted by agencies or institutions that coincide with the goals of the proposed entity. These include the following:

- Information Management (GIS)

Under the SB1086 program, the California Department of Water Resources has developed a Sacramento River geographic information system (GIS) as a planning tool to help resolve management questions as they arise at specific river locations. The Sacramento River GIS uses both the Geo/SQL and ArcView GIS pro-grams. Information indexed in this system and currently available for query includes historical river mean-

ders since 1896, geology, projected erosion rates and locations for the next 50 years, property ownership, areas within the 100-year floodline, and current and historical riparian habitat, soils, and bank face characteristics. The proposed nonprofit management entity will use the information in this system through the technical advisory team.

- Model for Prioritizing Habitat

A management model should be developed for each region of the valley floor and major reach of the River to allow for prioritization of habitats, optimization of biological diversity, and maintenance of ecological integrity. This would result in the data necessary for the development, for example, of a habitat conservation planning area. The proposed entity and its technical advisory team could provide information to agencies or academic institutions in support of this effort.

- Studies on Succession, Geomorphic, and Hydrologic Processes

Lack of data on the dynamics of riparian forest succession along the Sacramento River hinders discussion. A coordinated effort of data collection and research is needed to study the relationship of riparian forest succession along the Sacramento River to the flooding/flow regime, time of seed dispersal, channel migration, and substrate conditions. Interested parties would include the Nature Conservancy, the U.S. Fish and Wildlife Service, the Departments of Fish and Game and Water Resources and the CSU, Chico and UC Davis.

Geomorphic processes are an important component of the dynamics of succession. Key to its understanding are the collection and analysis of data on Sacramento River erosion, deposition and meandering. This information will be essential to understanding and predicting long-range changes caused by dam construction, bank protection and gravel mining on the tributaries. The proposed nonprofit management entity would support such research efforts.

- Topographic Mapping of Sacramento River System

Up-to-date topographic information for the Sacramento River north of the Sacramento River Flood Control Project (River Mile 194) does not exist, making detailed hydrologic/hydraulic modeling impossible. This information would provide the backbone for flow, fish habitat, and forest regeneration studies along the Sacramento River. The proposed entity would support efforts to conduct such mapping.

- Vegetation Monitoring

Current vegetation monitoring using color infrared aerial photography and photo interpretation, should continue. The SB1086 program has completed the monitoring of riparian forest habitat through 1995 in Shasta, Tehama, Butte, and Glenn Counties. Monitoring has not been conducted in Colusa and Yolo counties since 1987 and needs to be updated. The nonprofit entity would support such mapping efforts.

Success of site-specific management plans should be assessed biannually or more frequently, if necessary. The nonprofit entity would be responsible for monitoring the success of riparian vegetation succession associated with the site-specific management plans.